



SWIR Features

Introduction

Out-of-Band Spectral Leak at 5.3 μm

Subframe variations in Bands 5-7

Crosstalk



SWIR Features Summary



- SWIR Band calibration not complete due to ongoing effort to unravel out-of-band response, subframe variations, crosstalk, and possibly additional phenomena and to remove these effects from the calibration
- One side effect is that most ambient characterization data for SWIR bands has gaps or other problems, forcing a reliance on models or extrapolations from limited good quality data
 - IFOV, MTF, Polarization, Response vs. Scan Angle



SWIR Features Mechanisms



- We have identified, so far, three separate mechanisms affecting the SWIR Band Data
- First, we have out-of-band light leaks at 5.3 μm and 2.7 μm
 - Susceptible to both instrument background and scene thermal radiance
- Second, the subframes in Bands 5-7 behave very differently
 - Unlike Bands 1-4, the variation between the subframes is dependent on the scene radiance and the instrument temperature
- Third, we apparently have some intra-focal plane crosstalk (between SWIR bands)
 - True magnitude TBR; other features must be resolved first